

CLAIMS

We claim:

1. A floating habitat comprising buoyant growth medium and gas-producing microorganisms.
2. A floating habitat comprising buoyant growth medium and one or more inflatable bladders.
3. The floating habitat of claim 2, wherein the inflatable bladders are transparent.
4. The floating habitat of claim 2, wherein the inflatable bladders are opaque.
5. The floating habitat of claim 2, wherein the inflatable bladders are rigid.
6. The floating habitat of claim 2, wherein the inflatable bladders are flexible.
7. A floating habitat comprising one or more flotation units, a source of compressed air, and a means for connecting the source of compressed air to the flotation unit(s).
8. The floating habitat of claim 7, wherein each flotation unit comprises an individual supply hose, an inflatable bladder, a relief valve, a diffusing manifold, bottom mesh, top mesh, and buoyant growth medium.
9. The floating habitat of claim 8, wherein the bottom mesh and the top mesh are made of separate pieces of material.
10. The floating habitat of claim 8, wherein the bottom mesh and the top mesh are made of a single piece of material.
11. The floating habitat of claim 8, wherein the bottom and top mesh are designed or modified to be resistant or unattractive to chewing animals.
12. The floating habitat of claim 8, wherein the bottom mesh is sufficiently pliable to allow plant roots to grow through it.
13. The floating habitat of claim 8, wherein the holes in the bottom mesh are sufficiently large to allow plant roots to grow through the bottom mesh.
14. The floating habitat of claim 8, wherein the top mesh is sufficiently pliable to allow plant stems to grow through it.

15. The floating habitat of claim 8, wherein the holes in the top mesh are sufficiently large to allow plant stems to grow through the top mesh.
16. The floating habitat of claim 8, wherein the top and bottom mesh are sufficiently rigid to contain the buoyant growth medium.
17. The floating habitat of claim 8, wherein the holes in the top and bottom mesh are small enough to contain the buoyant growth medium.
18. The floating habitat of claim 8, wherein the diffusing manifold is positioned beneath the flotation unit by means of an extension tube.
19. The floating habitat of claim 7, wherein each flotation unit comprises an individual supply hose, an inflatable bladder, a relief valve, a diffusing manifold, bottom cover, top cover, and buoyant growth medium, wherein the bottom cover and the top cover are made of impermeable materials.
20. The floating habitat of claim 7, wherein the source of compressed air is a wind-powered compressor.
21. The floating habitat of claim 7, wherein the source of compressed air is a photoelectric-compressor system.
22. The floating habitat of claim 21, wherein the photoelectric-compressor system comprises a photoelectric cell, a battery and an air pump.
23. The floating habitat of claim 7, wherein the source of compressed air is a wave-powered air pump.
24. The floating habitat of claim 23, wherein the wave-powered air pump comprises an elastic air chamber, an outlet tube, an outlet check valve, an inlet tube, and an inlet check valve.
25. The floating habitat of claim 7, wherein the flotation unit comprises one or more internal dividers.
26. A floating habitat comprising buoyant growth medium and a self-compensating buoyancy system.
27. The floating habitat of claim 26, wherein the self-compensating buoyancy system comprises a submersible, differential pressure gauge system.
28. The floating habitat of claim 26, wherein the self-compensating buoyancy system comprises a conductivity switch.

29. The floating habitat of claim 26, wherein the self-compensating buoyancy system comprises an exhaust nozzle.

30. A floating habitat comprising a self-compensating inflation device, wherein the self-compensating inflation device comprises a source of compressed air, one or more inflatable bladders, and a means for connecting the source of compressed air to the inflatable bladder(s).

31. The floating habitat of claim 30, further comprising, in connection with each inflatable bladder, a ball float and a float valve with a sealing face.

32. The floating habitat of claim 31, wherein the ball float seals against the sealing face of the float valve when the buoyancy of the inflatable bladder needs to be increased.

33. The floating habitat of claim 31, wherein the ball float is not in contact with the sealing face of the float valve when the buoyancy of the inflatable bladder needs to be decreased.

34. A floating habitat comprising buoyant growth medium and one or more waterfowl nesting structures.

35. The floating habitat of claim 34, wherein the buoyant growth medium is contained in a water-permeable bag.

36. A floating habitat comprising buoyant medium contained in a water-impermeable bag and one or more waterfowl nesting structures.

37. The floating habitat of claim 36, further comprising artificial vegetation.

38. The floating habitat of claims 1, 2, 7, 26 or 30, further comprising a waterfowl nesting structure.

39. The floating habitat of claims 1, 2, 7, 26, 30, 34 or 36, wherein the waterfowl nesting structure is designed to attract a particular species of waterfowl.

40. The floating habitat of claims 1, 2, 7, 26, 30, 34 or 36, further comprising a predator control device.

41. The floating habitat of claims 1, 2, 7, 26, 30 or 34, further comprising live vegetation that is selected based on the nesting preferences of a particular species of waterfowl.

42. The floating habitat of claim 8, further comprising a waterfowl nesting structure, wherein the construction material and screen size of the bottom mesh allows plants to grow in the flotation unit but does not allow plant roots to penetrate the lower side of the flotation unit.

43. The floating habitat of claim 8, further comprising a waterfowl nesting structure, wherein the construction material and screen size of the top mesh are selected to be attractive to a particular species of nesting waterfowl, to be safe for juvenile waterfowl, to provide a substrate for new vegetation growth, and, when live vegetation is optionally planted within the flotation unit, to allow penetration of vegetation stems.

44. A floating habitat comprising a bottom, a plurality of sides, a top, an interior filling, and artificial plants, wherein the bottom, sides and top are constructed of a lightweight and durable material that is water-permeable but resistant to penetration by plant roots.

45. The floating habitat of claim 44, wherein the artificial vegetation is selected to be particularly attractive to nesting waterfowl.

46. A floating habitat comprising a bottom, a plurality of sides, a top, an interior filling, and natural plants, wherein the bottom and sides are constructed of a lightweight and durable material that is water-permeable but resistant to penetration by plant roots.

47. The floating habitat of claim 46, wherein the top is comprised of nonwoven mesh material.

48. The floating habitat of claim 46, wherein the top is comprised of geotextile material.

49. A floating habitat comprising a bottom, a plurality of sides, a top, an interior filling, and natural plants, wherein the sides are constructed of a lightweight and durable material that is water-permeable but resistant to penetration by plant roots and resistant to climbing by mammal predators.

50. The floating habitat of claims 44, 46 or 49, wherein the sides are sloped outward to prevent predators from boarding the floating habitat.

51. The floating habitat of claims 44, 46 or 49, further comprising a lip around the perimeter of the floating habitat to resist boarding by swimming animals.

52. The floating habitat of claims 44, 46 or 49, wherein the interior filling comprises closed-cell foam.
53. The floating habitat of claims 44, 46 or 49, wherein the interior filling comprises air.
54. A floating habitat comprising scrap pieces of polyester mesh.
55. The floating habitat of claim 54, further comprising expandable foam.
56. The floating habitat of claim 55, further comprising closed cell foam pieces.
57. The floating habitat of claim 54, further comprising sides that are comprised of rigid plastic sheeting.
58. The floating habitat of claim 57, wherein the rigid plastic sheeting is high-density polyethylene.
59. The floating habitat of claim 54, further comprising a nesting area.
60. The floating habitat of claim 59, wherein the nesting area is shaped to be attractive to a particular species of nesting waterfowl.
61. The floating habitat of claim 59, further comprising camouflage material that hides the nesting area.
62. The floating habitat of claim 61, wherein the camouflage material is comprised of natural brush.
63. The floating habitat of claim 61, wherein the camouflage material is comprised of artificial plants.
64. The floating habitat of claim 54, further comprising a bottom covering that is permeable to water but does not allow penetration by plant roots.
65. The floating habitat of claim 64, further comprising a top cover that does not allow penetration by plant stems.
66. The floating habitat of claims 64 or 65, wherein the material that does not permit plant stem penetration is plastic weed prevention matting used for landscaping.
67. The floating habitat of claim 54, further comprising a bottom that is comprised of a material that does allow penetration by plant roots.
68. The floating habitat of claim 67, wherein the material that does permit plant root penetration is nylon netting.

69. The floating habitat of claim 54, further comprising a nesting cavity.
70. The floating habitat of claim 69, further comprising camouflage material that protects the nesting cavity.
71. The floating habitat of claim 70, wherein the camouflage material is comprised of natural brush.
72. The floating habitat of claim 70, wherein the camouflage material is comprised of artificial plants.
73. The floating habitat of claim 54, further comprising a layer of natural-looking material on top of the surface of the floating habitat.
74. The floating habitat of claim 73, wherein the natural-looking material is jute.
75. The floating habitat of claim 54, further comprising an outer covering.
76. The floating habitat of claim 75, wherein the outer covering is comprised of a durable, water-permeable material.
77. The floating habitat of claim 76, wherein the durable, water-permeable material is woven nylon.
78. The floating habitat of claim 56, further comprising an outer covering.
79. The floating habitat of claim 78, wherein the outer covering is formed by melting and fusing the outer fibers of the scrap pieces of polyester mesh and closed cell foam.
80. A floating habitat comprising molded pieces of nonwoven mesh material, a natural covering, brush attachment wires, and pieces of natural brush.
81. The floating habitat of claim 80, wherein the natural covering is burlap.
82. A floating habitat comprising molded pieces of nonwoven mesh material, a natural-looking synthetic material, brush attachment wires, and pieces of natural brush.
83. A floating habitat comprising one or more layers of nonwoven polyester mesh material and one or more nesting cavities.
84. The floating habitat of claim 83, further comprising expanding foam sealant.
85. The floating habitat of claim 84, wherein the expanding foam sealant provides buoyancy to the floating habitat.

86. The floating habitat of claim 84, wherein the expanding foam sealant bonds the sheets of nonwoven polyester mesh material together.
87. The floating habitat of claim 83, further comprising camouflage material.
88. The floating habitat of claim 87, wherein the camouflage material is natural brush.
89. The floating habitat of claim 87, wherein the camouflage material is attached to the nonwoven polyester mesh material with wire strips.
90. The floating habitat of claim 83, wherein the floating habitat comprises a top layer of nonwoven polyester mesh material, and wherein at least one nesting cavity is formed by an arch in the top layer of nonwoven polyester mesh material.
91. The floating habitat of claim 83, wherein the floating habitat comprises a top layer of nonwoven polyester mesh material, and wherein at least one nesting cavity is installed on top of the top layer of nonwoven polyester mesh material.
92. A floating habitat comprising buoyant growth medium and an anchor tether with swivel capability that provides flexibility so as not to impair the optimal buoyancy of the floating habitat.
93. The floating habitat of claims 1, 2, 7, 26, 30, 34, 36, 44, 46, 49, 80, 82 or 83, further comprising an anchor tether with swivel capability that provides flexibility so as not to impair the optimal buoyancy of the floating habitat.
94. A floating habitat comprising buoyant growth medium and a source of compressed air, wherein the source of compressed air creates air bubbles that are sparged under the floating habitat.
95. A floating habitat comprising buoyant growth medium and a source of compressed air, wherein the source of compressed air creates bubbles that are sparged around the floating habitat.
96. A floating habitat comprising buoyant growth medium and a source of compressed air, wherein the source of compressed air creates bubbles that are sparged through the floating habitat.
97. The floating habitat of claims 1, 2, 8, 26, 34, 94, 95 or 96, wherein the buoyant growth medium comprises natural material.

98. The floating habitat of claims 1, 2, 8, 26, 34, 94, 95 or 96, wherein the buoyant growth medium comprises synthetic material.

99. The floating habitat of claims 1, 2, 8, 26, 34, 94, 95 or 96, wherein the buoyant growth medium further comprises one or more plant growth enhancer(s).

100. A floating habitat comprising a solar-powered electric shocking system, one or more attraction/shocking pipes, differential shocking electrodes, and sharp spikes.

101. The floating habitat of claim 100, wherein the solar-powered electric shocking system comprises a photoelectric cell, a storage battery, and a high-voltage converter and shock control unit.

102. The floating habitat of claim 100, further comprising a bird perch and differential bird-shocking electrodes.

103. The floating habitat of claim 100, further comprising a predator call.

104. The floating habitat of claim 100, further comprising a hen nesting decoy.

105. A floating habitat comprising sharp spikes.

106. The floating habitat of claim 100 or 105, wherein the sharp spikes are made of plastic.

107. The floating habitat of claim 100 or 105, wherein the sharp spikes are made of metal.

108. The floating habitat of claim 100 or 105, wherein the sharp spikes are made of glass.

109. The floating habitat of claim 100 or 105, wherein the sharp spikes are made of porcupine quills.

110. The floating habitat of claim 100 or 105, wherein the sharp spikes are made of the stainless steel "porcupine wire" sold by Nixalite of America Inc.

111. The floating habitat of claim 100 or 105, wherein the sharp spikes are made of the stainless steel and polycarbonate BIRD-FLITE SPIKE manufactured by Bird Barrier America, Inc.

112. The floating habitat of claim 100, wherein the differential shocking electrodes are separate from the sharp spikes.

113. The floating habitat of claim 100, wherein the differential shocking electrodes are incorporated into the sharp spikes.

114. A floating habitat comprising an upwardly sloping edge.

115. A floating habitat comprising one or more duckling jump locations.

116. A method of combining one or more of the floating habitats of claims 1, 2, 7, 26, 30, 34, 36, 44, 46, 49, 54, 80, 82 or 83 to provide safe habitat for juvenile waterfowl.

117. A method of combining one or more of the floating habitats of claims 1, 2, 7, 26, 30, 34, 36, 44, 46, 49, 54, 80, 82 or 83 to encourage colony nesting.

118. A method of combining one or more of the floating habitats of claims 1, 2, 7, 26, 30, 34, 36, 44, 46, 49, 54, 80, 82 or 83 to allow for a variety of waterfowl or shore bird species to enjoy suitable habitat on the same floating habitat system.

119. A method of decreasing the buoyancy of the floating habitat of claims 2, 8, 19 or 30 by filling one or more inflatable bladders with water.

120. A method of using the source of compressed air of claim 94, 95 or 96 to reduce ice damage to the floating habitat and to increase the open water season around the floating habitat.

121. A method of manufacturing a floating habitat, comprising the steps of:

- (a) laying pieces of nonwoven mesh material and optional closed cell foam material into a mold;
- (b) spraying expandable foam into and between the pieces of nonwoven mesh material to form the body of the floating habitat;
- (c) removing the body of the floating habitat from the mold and placing it in an upright position;
- (d) attaching a covering to the top of the body of the floating habitat;
- (e) inserting brush attachment wires into the body of the floating habitat;
- (f) attaching pieces of natural brush to the brush attachment wires.